United States Department of Agriculture | Forest Service | Northeastern Area State & Private Forestry | 180 Canfield Street Morgantown, WV 26505-3101

File Code: 3411 (NA-12-03)
Date: July 5, 2012

Subject: **European hornet, *Vespa crabro***

To: Jerry Jordan, District Silviculturist
Allegheny National Forest

Identification

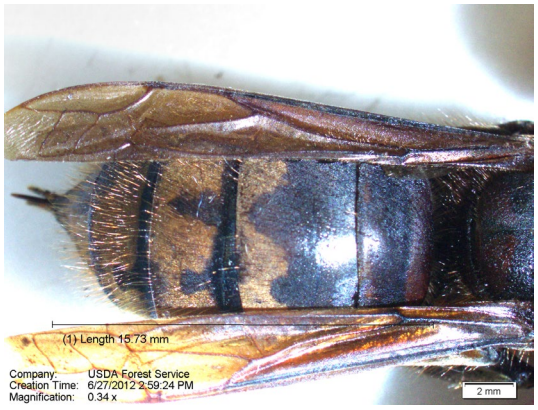
The insect of concern is the European hornet, *Vespa crabro*, (Order: Hymenoptera) in the Vespidae family. The family Vespidae has nearly 5,000 species that include social and eusocial wasps. This species was introduced to North America from Europe in the mid-1800's and can be found from New England to Georgia and as far west as the Mississippi river.

Description

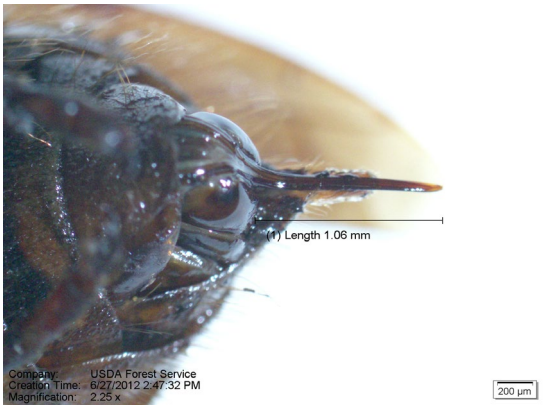
The hornet sent in to the Morgantown Field Office (MFO) is a female and 28 mm in length. Based on the large size it is likely a queen. Queen *Vespa crabro* are typically between 25-35 mm with males and workers significantly smaller. The hornet seemed to have been sitting in the sun or had been exposed to high temperatures after dying. The coloration was a little darker than a typical European hornet. The European hornet has a yellow face and large mandibles. The thorax of the hornet is dark brown, reddish, and black with orange hairs. The abdomen is yellow with unique black markings. The ovipositor, or stinger, is very large.

Above: The head of *Vespa crabro* from Marienville, PA.

Above: The thorax of *Vespa crabro* from Marienville, PA.



Above: The abdomen of *Vespa crabro* from Marienville, PA.



Above: Ovipositor and poison sack of the PA. *V. crabro*

Above: An alive adult European hornet on its nest
Steven Russell Smith, 2009

Above: The European hornet's nest
Terry Prouty, 2007

Life Cycle

Queens emerge in the spring and search for a nesting area. Nests can be found in hollow trees, crevices, on the sides of buildings, in attics or bird nest-boxes. Nests are usually built 6 feet above ground and look like elongated tunnels of combs. The queen starts a nest by laying a few eggs in individual paper cells made of chewed pulp wood. The life cycle for these non-reproductive workers from eggs to adults takes about 5 weeks. Once developed these workers take care of the nest as the queen keeps laying eggs. The workers do what they are and "work" by capturing insects such as yellow jackets, grasshoppers, or flies to feed the queen. They are active during the day and at night, are attracted to light, and have a loud buzz. They are also known to girdle tree species such as lilac, birch, dogwood, ash, horsechestnut, dahlia, and boxwood for their sap. The workers will feed on sugary liquid produced by the hornet larvae as well. In mid September the nest is fully developed and the queen lays her last set of eggs that develop into males and new queens. The queen then dies and the new queens mate with the new males. Those new males then die and the newly mated queens seek out a place to hibernate which could be in a hollow tree or trunk and sometimes in forest soil. After the new queens have left the nest, the workers start to die off as the weather gets colder and by December the nest is dead. The old nest is never re-used.

Control

Vespa crabro is not likely to attack unless it feels threatened or it is protecting its nest. Since the hornets are very large and protective of their nests, it is recommended to seek professional pest control services or wait until January to deal with the nests. These hornets are large and have a very painful sting; according to the National Institutes of Health, the allergic reaction rate to the European hornet sting is three times greater than honey bees or yellow jackets. In one colony there could be 800-1000 workers who can sting. Currently, there are no insecticides that can be applied to the host plants that the European hornets are girdling.

Sincerely,

Lindsay Wolf
Morgantown Field Office

Cc. Andrea Hille, Forest Silviculturist

RMT